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ILLUSTRATED CATALOGUE

WOODLAND FIRE BRICK CO.,  
[LIMITED,]

WOODLAND, CLEARFIELD COUNTY,  
PENNSYLVANIA,

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UNITED STATES OF AMERICA.

ILLUSTRATED CATALOGUE

—OF THE—

WOODLAND FIRE BRICK CO.,  
[LIMITED,]

WOODLAND, CLEARFIELD COUNTY,

PENNSYLVANIA,

MAKERS OF THE

BEST QUALITIES FIRE BRICK FOR ALL PURPOSES.

A. F. BOYNTON, PRESIDENT.  
W. H. DILL, SECRETARY.

WM. H. WYNN, MANAGER.  
D. ROSS, SR., MANAGER.

Agent for the West:

F. D. BLATTENBERGER,

No. 36 SIXTH STREET, PITTSBURGH, PA.

WORKS AND OFFICE:

WOODLAND, CLEARFIELD COUNTY, PA.

ESTABLISHED, 1870.

1882.



TP 656  
W3

TP 656  
F5W8



Entered, according to Act of Congress, in the year 1882, by

THE WOODLAND FIRE BRICK CO. (Limited),

In the Office of the Librarian of Congress, at Washington, D. C.



4-21427

## OUR BRANDS.

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"WOODLAND," for Steel purposes and Malleable Iron Works.

"BRADFORD," for Rolling Mills and Heating Furnaces.

"W. F. B." for Coke Ovens, Lime Kilns, &c.

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For Blast Furnace Brick, see pages . . . . .	16 to 27
For Clays, see page . . . . .	7
For Cupola Brick, see page . . . . .	13

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CUPOLA BRICK MADE OF ALL SIZES TO FIT ANY CUPOLA.



## TO THE TRADE.

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WE take great pleasure in presenting this illustrated volume of our manufactures for your consideration. We have devoted special care and attention to its contents, and hope you will find in it just what you want. Should there, however, be some particular shape or size of brick needed, we can make it for you, equally as perfect as a common nine inch brick.

Our capacity is 25,000 nine inch brick daily, and we are enabled, by means of this large output, to fill special orders with great promptitude, and upon very short notice.

The "Woodland" brick have been in the market about twelve years, and we retain, as present customers, those who first favored us with their orders.

This goes to show the splendid uniformity of quality which our brick possess. In some cases, where they were put to new and heretofore untried uses, we have been enabled, by great care, to make them the best brick in the United States for those uses. This is notably so in the Steel, Blast Furnace and Malleable Iron trades.

Contrary to the usual style followed in books of this description, we do not publish any testimonials whatever, but instead, we can refer those persons, to whom the "Woodland" brick are not known by reputation, to the following well-known firms, who have kindly given us special permission to refer to them. If written to, they will cheerfully give their opinion of the "Woodland" brick:—

### STEEL MANUFACTURERS, CRUCIBLE AND OPEN-HEARTH FURNACES.

PARK, BRO. & Co., . . . . .	Pittsburgh..
HUSSEY, HOWE & Co. (Limited), . . . . .	do.
SHOENBERGER & Co., . . . . .	do.
MILLER, METCALF & PARKIN, . . . . .	do.

### MALLEABLE IRON WORKS.

CHICAGO MALLEABLE IRON Co., . . . . .	Chicago, Ill.
CLEVELAND MALLEABLE IRON Co., . . . . .	Cleveland, Ohio.
EBERHARD MANUFACTURING Co., . . . . .	do. do.



## BLAST FURNACES:

### *Coal.*

MOXAHALA IRON CO., . . . . .	Moxahala, Ohio.
THOMAS IRON WORKS, . . . . .	Gore, do.
WINONA IRON CO., . . . . .	Winona, do.
CRAFTS IRON CO., . . . . .	Greendale, do.

### *Coke and Coal.*

MARSHALL BROS. & CO., . . . . .	Newport, Pa.
GLAMORGAN IRON CO., . . . . .	Lewistown, Pa.
BLAIR IRON AND COAL CO., . . . . .	Hollidaysburg, Pa.
HOLLIDAYSBURG AND GAP IRON CO., . . . . .	do. do.

### *Charcoal.*

C. W. AHL & SON, . . . . .	Carlisle, Pa.
SHELBY IRON CO., SHELBY IRON WORKS, . . . . .	Alabama.
STICKNEY IRON CO., . . . . .	Baltimore, Md.

## FOUNDRIES.

MACKINTOSH, HEMPHILL & CO. (Limited), . . . . .	Pittsburgh, Pa.
W. H. IRWIN, . . . . .	do. do.
LIMA MACHINE WORKS, . . . . .	Lima, Ohio.

We could furnish many names in addition to those given, but consider that they are sufficient to show the wide range covered by the "Woodland" brick. We have testimonials from them on file in our offices, but we much prefer that intending customers would write direct to any one whose name is given, asking for their unbiased opinion of our brick.

We will always be glad to quote prices of the "Woodland" brick, either first or second quality, for any purpose, and will cheerfully furnish any information in our power to buyers.

Respectfully,

WOODLAND FIRE-BRICK CO., LIMITED.

WOODLAND, PA., September, 1882.



## CLAYS.

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The following are two analyses of "Woodland" clays:—

<i>Specimen 1.</i>	<i>Specimen 2.</i>
Organic matter, . . . . .21	.18
Water, . . . . .15.61	14.91
Silica Acid, . . . . .46.13	45.64
Alumina, . . . . .37.51	38.57
Peroxyde of Iron, . . . .15	.13
Lime, . . . . .29	.45
Magnesia, . . . . .10	.12
<hr style="width: 50%; margin-left: auto;"/> 100. <hr style="width: 50%; margin-left: auto;"/>	<hr style="width: 50%; margin-left: auto;"/> 100. <hr style="width: 50%; margin-left: auto;"/>

Analyzed by Otto Wuth, Analytical Chemist, Pittsburgh, Pa.

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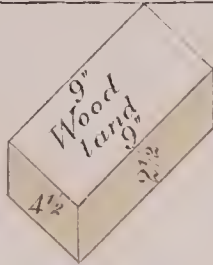
Ground fire-clay for laying brick always in stock. Can be furnished in any quantity, and shipped either in bulk or paper sacks. One sack weighs one hundred pounds.

It is important to use our ground clay with our fire-brick, as thereby the best results can be obtained.

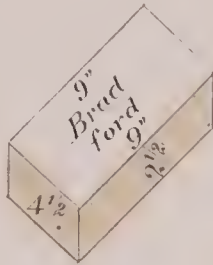
One half ton (1000 pounds) will lay 1000 nine inch brick.

WOODLAND FIRE-BRICK CO., LIMITED.  
COMMON SHAPES.

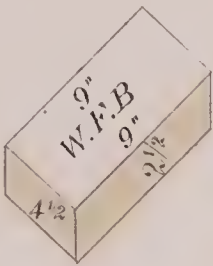
NINE INCH.



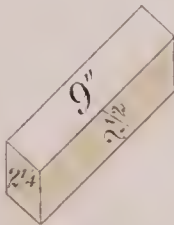
NINE INCH.



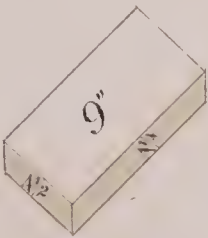
NINE INCH.



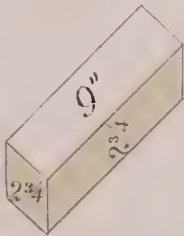
SOAP.



SPLIT.



CHECKER.

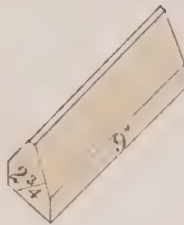




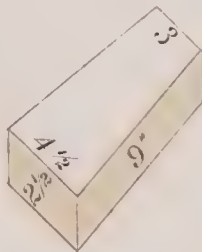
WOODLAND FIRE-BRICK CO., LIMITED.  
COMMON SHAPES.

9

SWINDELL'S CHECKER.

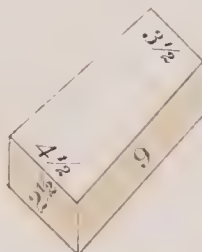


KEY, No. 1.



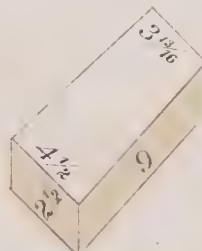
3 FT. CIRCLE.  
37 BRICK TO CIRCLE.

KEY, No. 2.



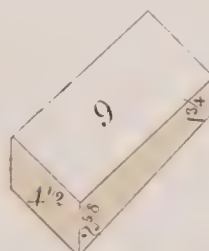
5 FT. CIRCLE.  
54 BRICK TO CIRCLE.

KEY, No. 3



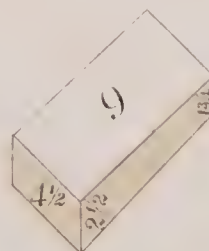
8 FT. CIRCLE.  
79 BRICK TO CIRCLE.

WEDGE, No. 1.



36" CIRCLE.  
64 BRICK TO CIRCLE.

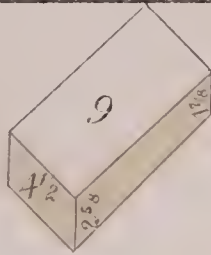
WEDGE, No. 2.



42" CIRCLE.  
75 BRICK TO CIRCLE.

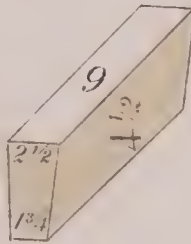
WOODLAND FIRE-BRICK CO., LIMITED.  
COMMON SHAPES.

WEDGE, No. 3.



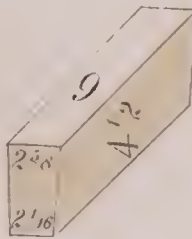
45" CIRCLE.  
75 BRICK TO CIRCLE.

ARCH, No. 1.



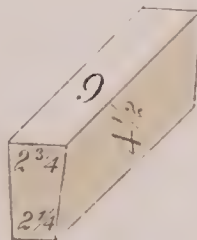
21" CIRCLE.

ARCH, No. 2.



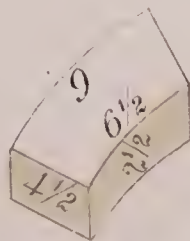
33" CIRCLE.

ARCH, No. 3.



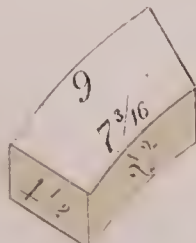
40 1/4" CIRCLE.

CIRCLE, No. 1.



2 FT. CIRCLE.  
11 BRICK TO CIRCLE.

CIRCLE, No. 2.



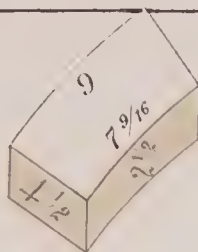
3 FT. CIRCLE.  
15 BRICK TO CIRCLE.



# WOODLAND FIRE-BRICK CO., LIMITED. COMMON SHAPES.

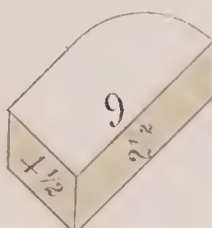
11

CIRCLE, No. 3.

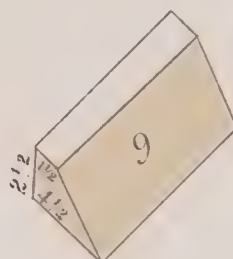


4 FT. CIRCLE.  
20 BRICK TO CIRCLE.

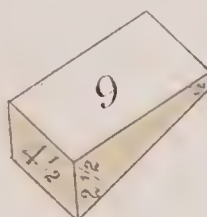
SMALL JAMB.



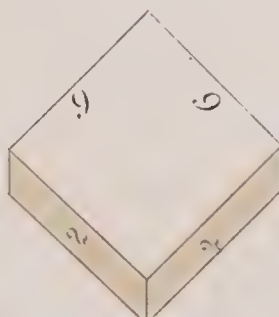
SKEWBACK.



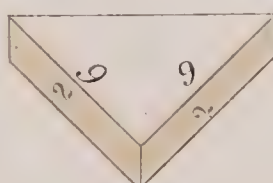
POINT.



PAVING TILE.

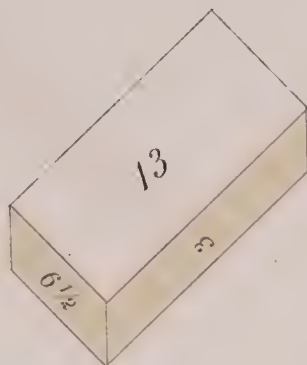


HALF TILE.

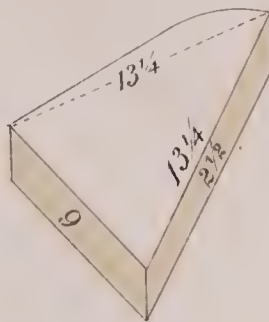


WOODLAND FIRE-BRICK CO., LIMITED.  
COMMON SHAPES.

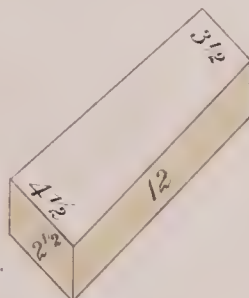
BRIDGE.



LARGE JAMB.

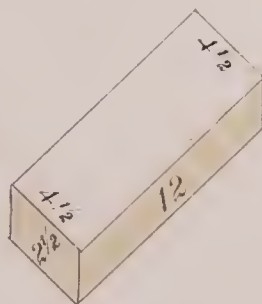


KEY.

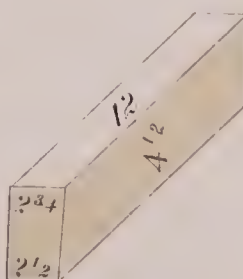


7 FT. CIRCLE.  
75 BRICK TO CIRCLE.

STRAIGHT.



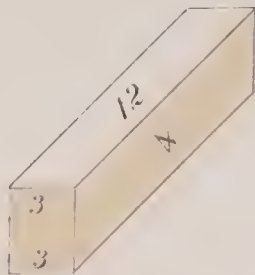
COVER, No. 1.



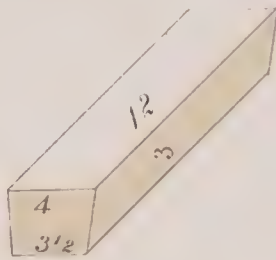


WOODLAND FIRE-BRICK CO., LIMITED.  
COMMON SHAPES.

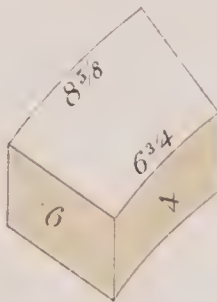
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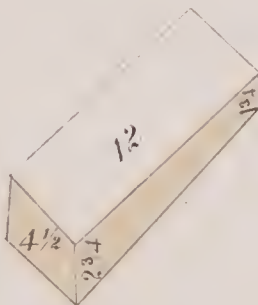
COVER, No. 3.



CUPOLA.

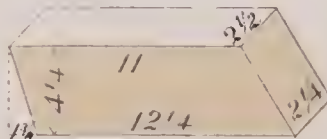
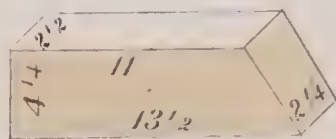


12" WEDGE.

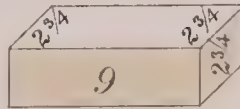
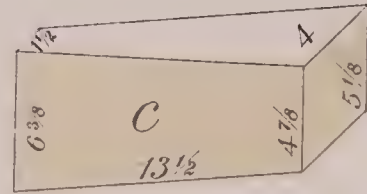
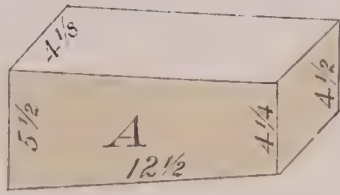


43" CIRCLE.  
20 BRICK TO CIRCLE

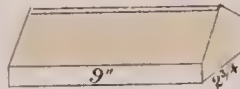
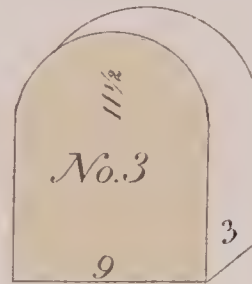
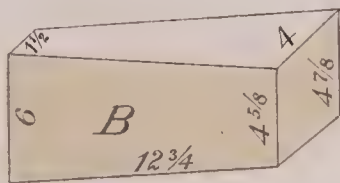
MITRE SHAPES.



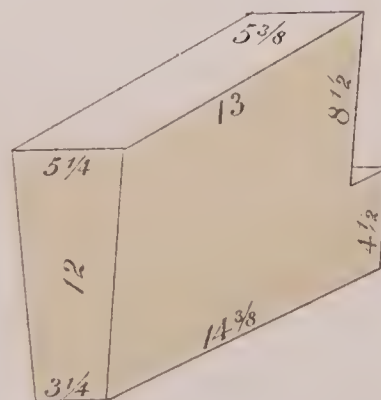
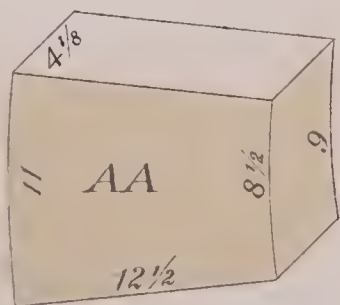
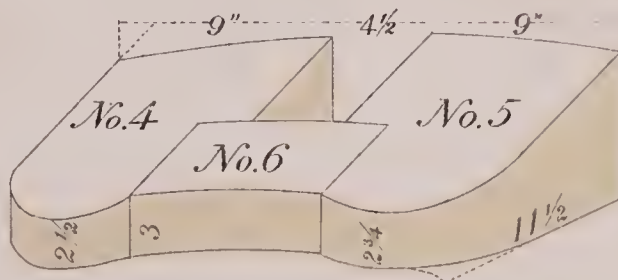
WOODLAND FIRE-BRICK CO., LIMITED.  
STEEL FURNACE BRICK.



CHECKER.



SWINDELL'S CHECKER.

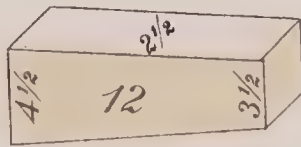


LARGE DOOR ARCH.

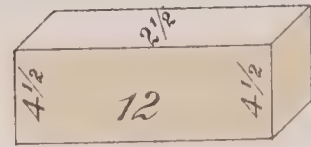


WOODLAND FIRE-BRICK CO., LIMITED.  
STEEL FURNACE BRICK.

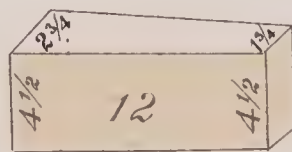
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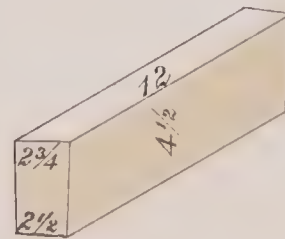
KEY.



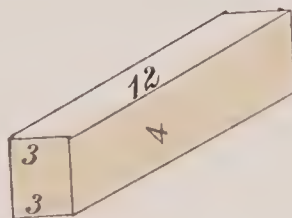
STRAIGHT.



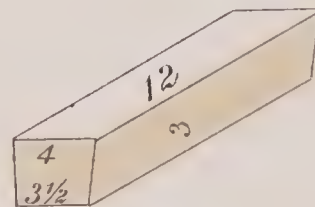
WEDGE.



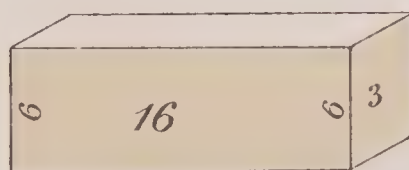
No. 1, COVER.



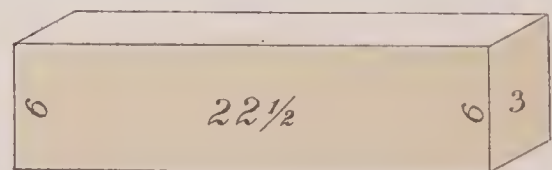
No. 2, COVER.



No. 3, COVER.



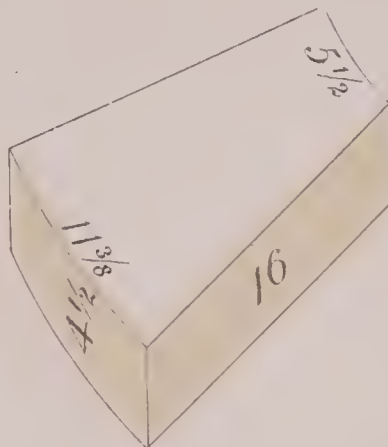
TILE.



TILE.

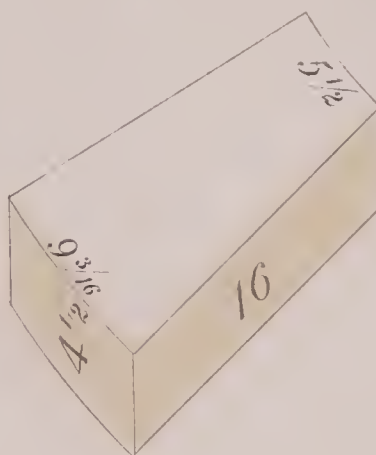
WOODLAND FIRE-BRICK CO., LIMITED.  
BLAST FURNACE BRICK.

KEY. 2 FT. 6 IN. CIRCLE.



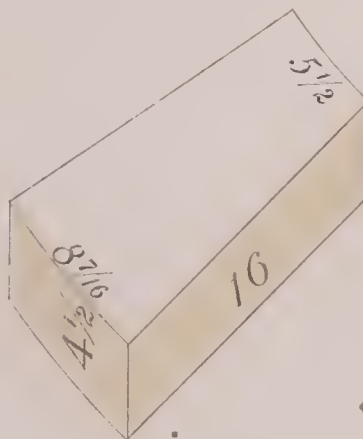
17 BRICK TO CIRCLE.

KEY. 4 FT. CIRCLE.



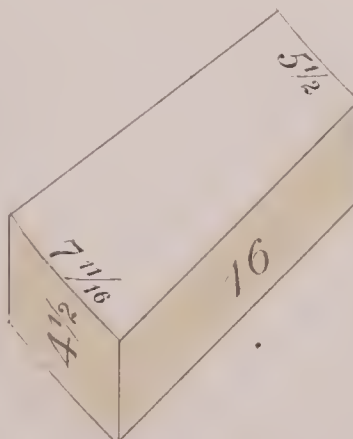
27 BRICK TO CIRCLE.

KEY. 5 FT. CIRCLE.



34 BRICK TO CIRCLE.

KEY. 6 FT. 9 IN. CIRCLE.

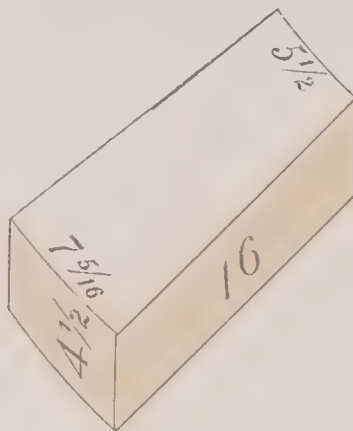


46 BRICK TO CIRCLE.

WOODLAND FIRE-BRICK CO., LIMITED.  
BLAST FURNACE BRICK.

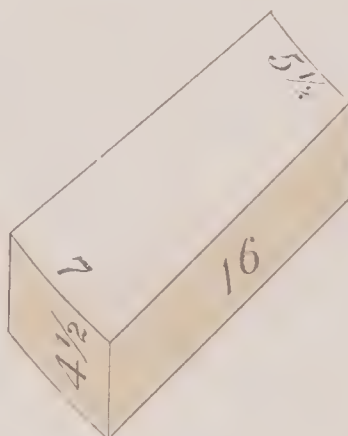
17

KEY. 8 FT. CIRCLE.



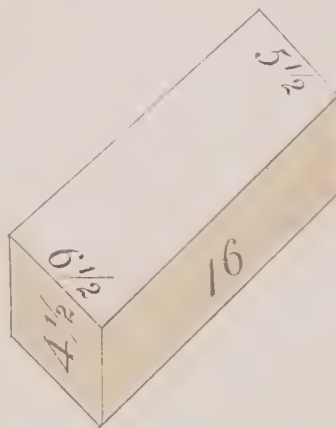
54 BRICK TO CIRCLE.

KEY. 10 FT. CIRCLE.



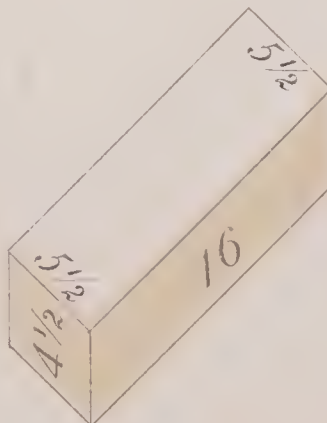
68 BRICK TO CIRCLE.

KEY. 15 FT. CIRCLE.



102 BRICK TO CIRCLE.

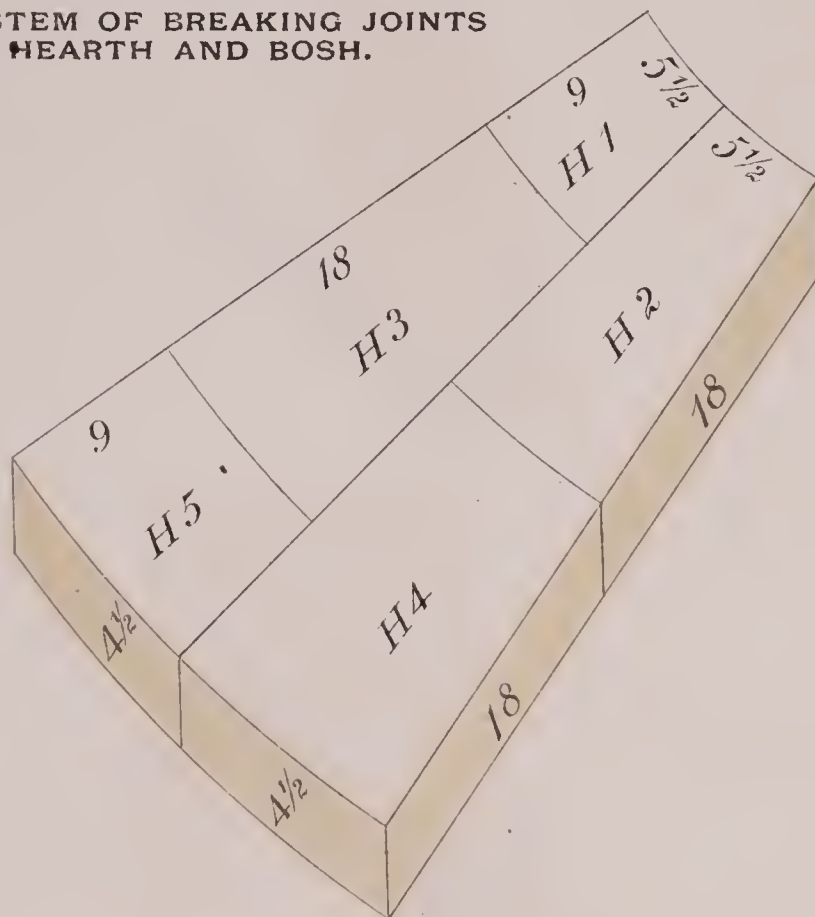
STRAIGHT.



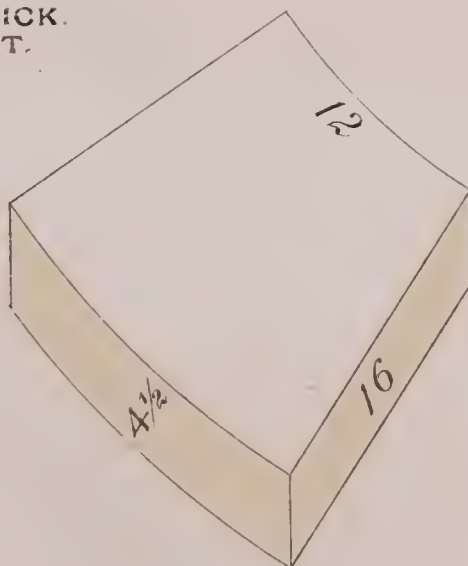


WOODLAND FIRE-BRICK CO., LIMITED.  
BLAST FURNACE BRICK.

OUR SYSTEM OF BREAKING JOINTS  
IN HEARTH AND BOSH.



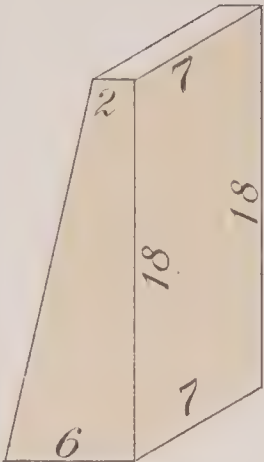
FURNACE BRICK.  
12" @ POINT.



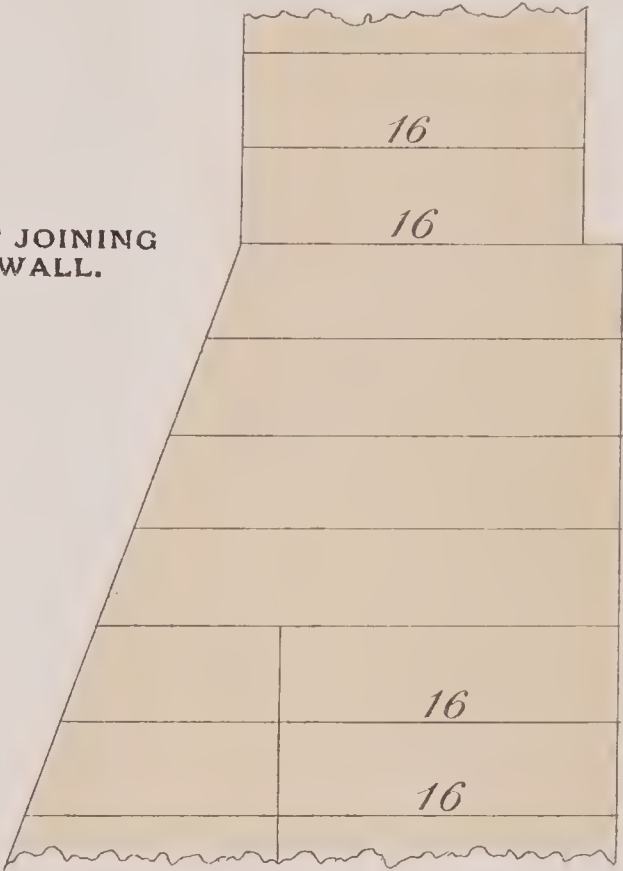
WOODLAND FIRE-BRICK CO., LIMITED  
BLAST FURNACE BRICK.

19

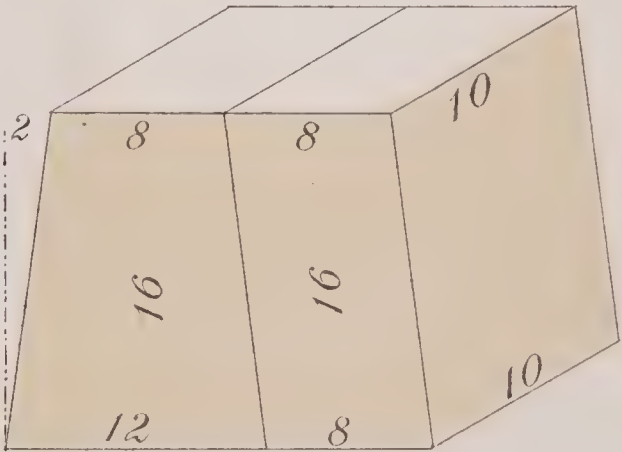
COMMON BOSH TOP.



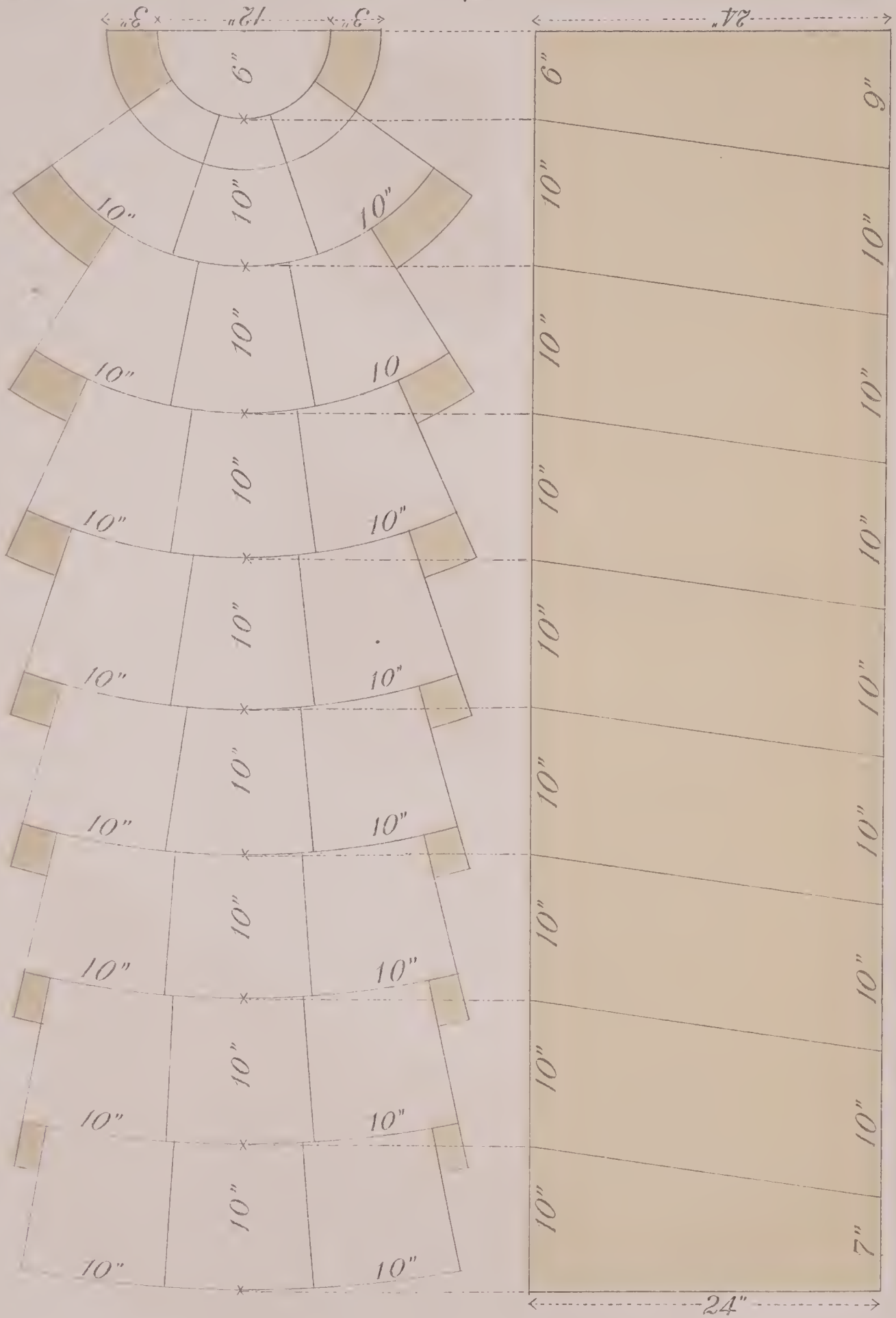
OUR SYSTEM OF JOINING  
BOSH AND INWALL.



BOTTOM,  
No. 1.



WOODLAND FIRE-BRICK CO., LIMITED.  
BLAST FURNACE BRICK.



SECTION OF BLAST FURNACE BOTTOM, No. 2.  
DIAMETER OF BOTTOM, 14 FT. 4 IN.

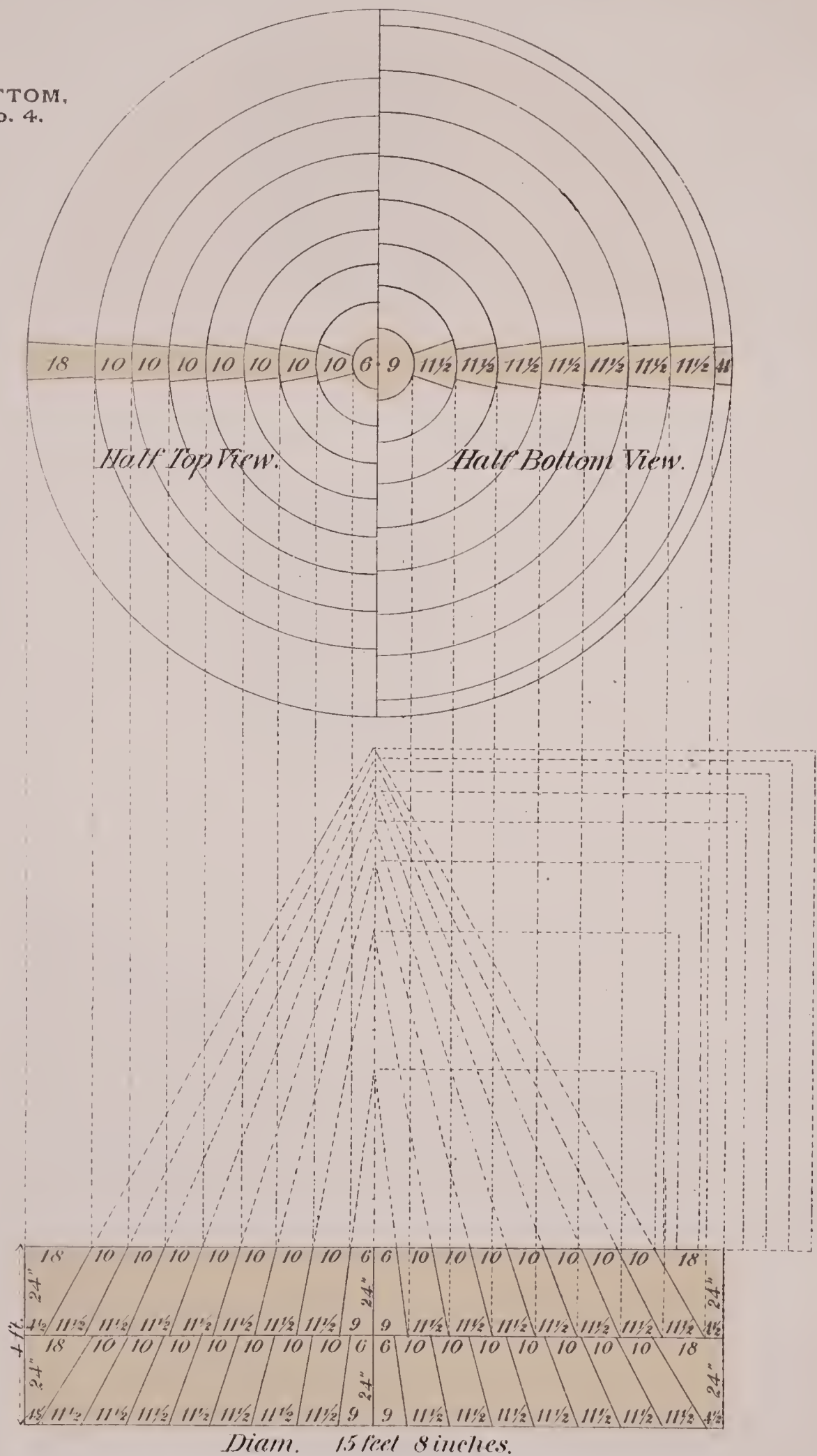


A diagram of a rectangular prism. The top horizontal edges are labeled 18" and 8". The vertical edges are labeled 6". The slanted side face has edges labeled 13", 12 7/8", 5", 7 7/8", 5 1/8", and 7 1/8".

[illegible]

WOODLAND FIRE-BRICK CO., LIMITED.  
BLAST FURNACE BRICK.

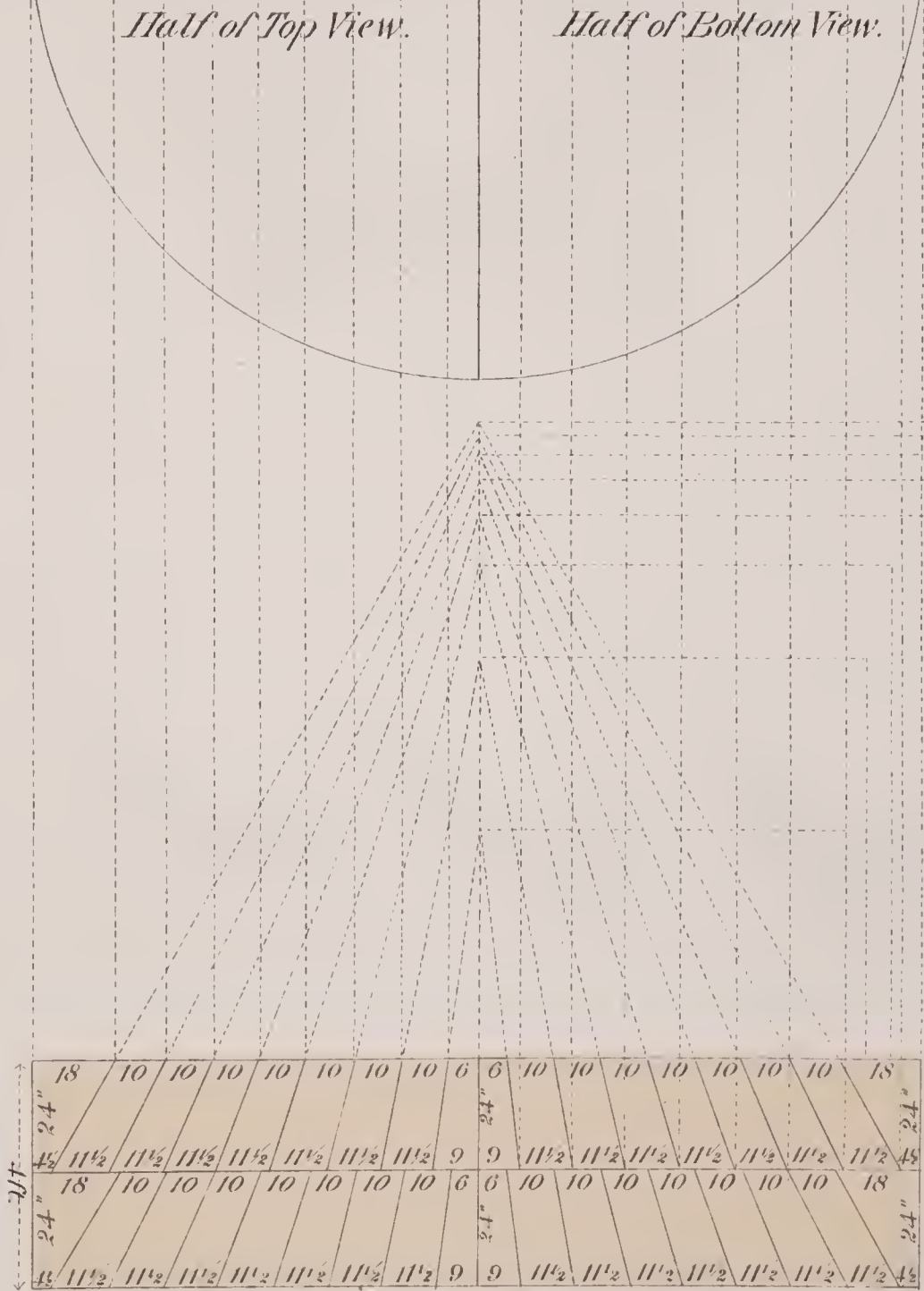
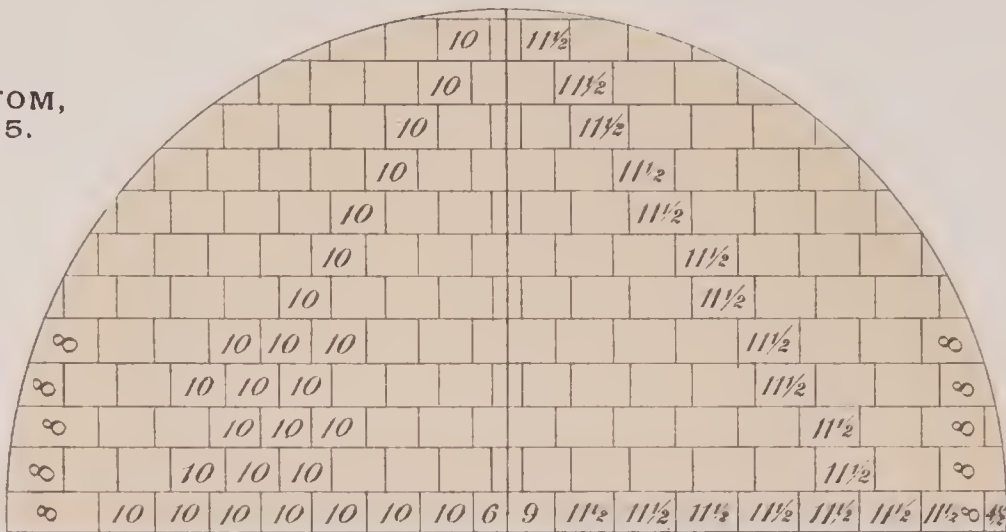
BOTTOM,  
No. 4.



Diam. 15 feet 8 inches.

WOODLAND FIRE-BRICK CO., LIMITED.  
BLAST FURNACE BRICK.

BOTTOM,  
No. 5.

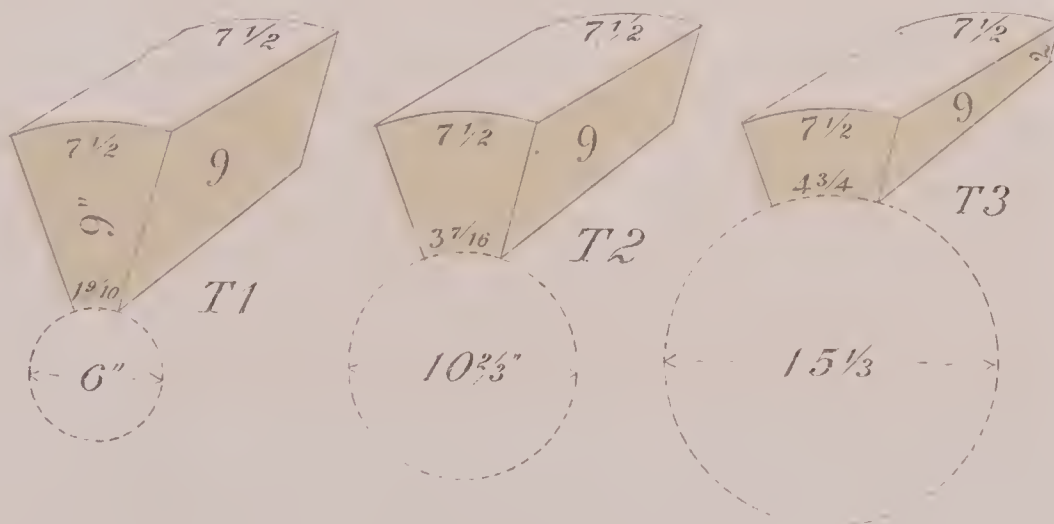
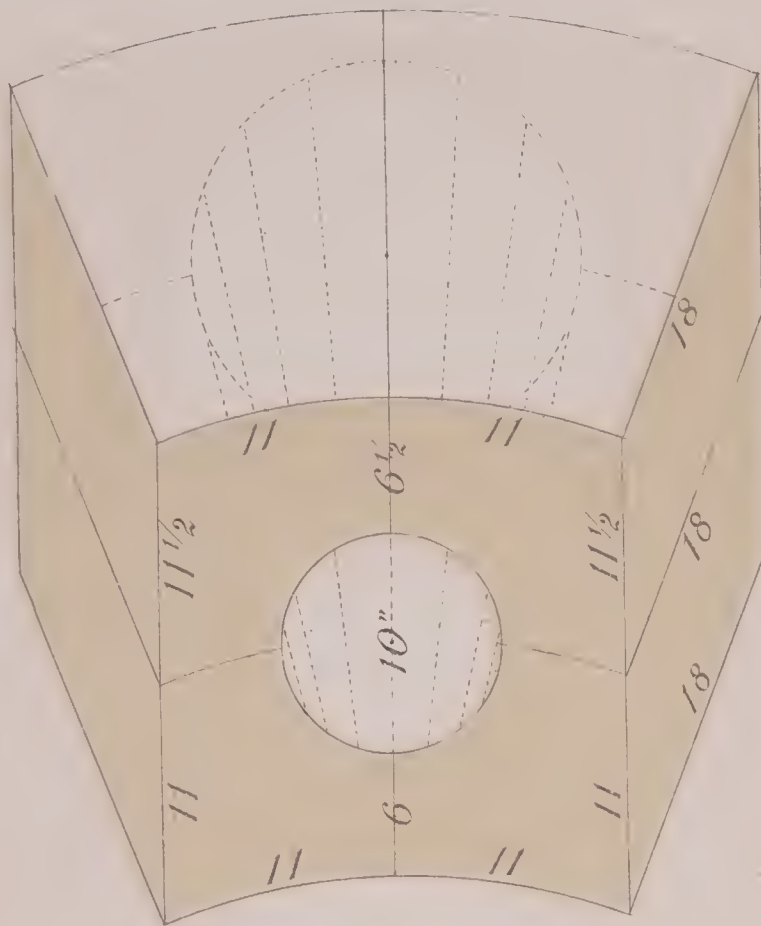


Diam. 15 feet 8 inches.



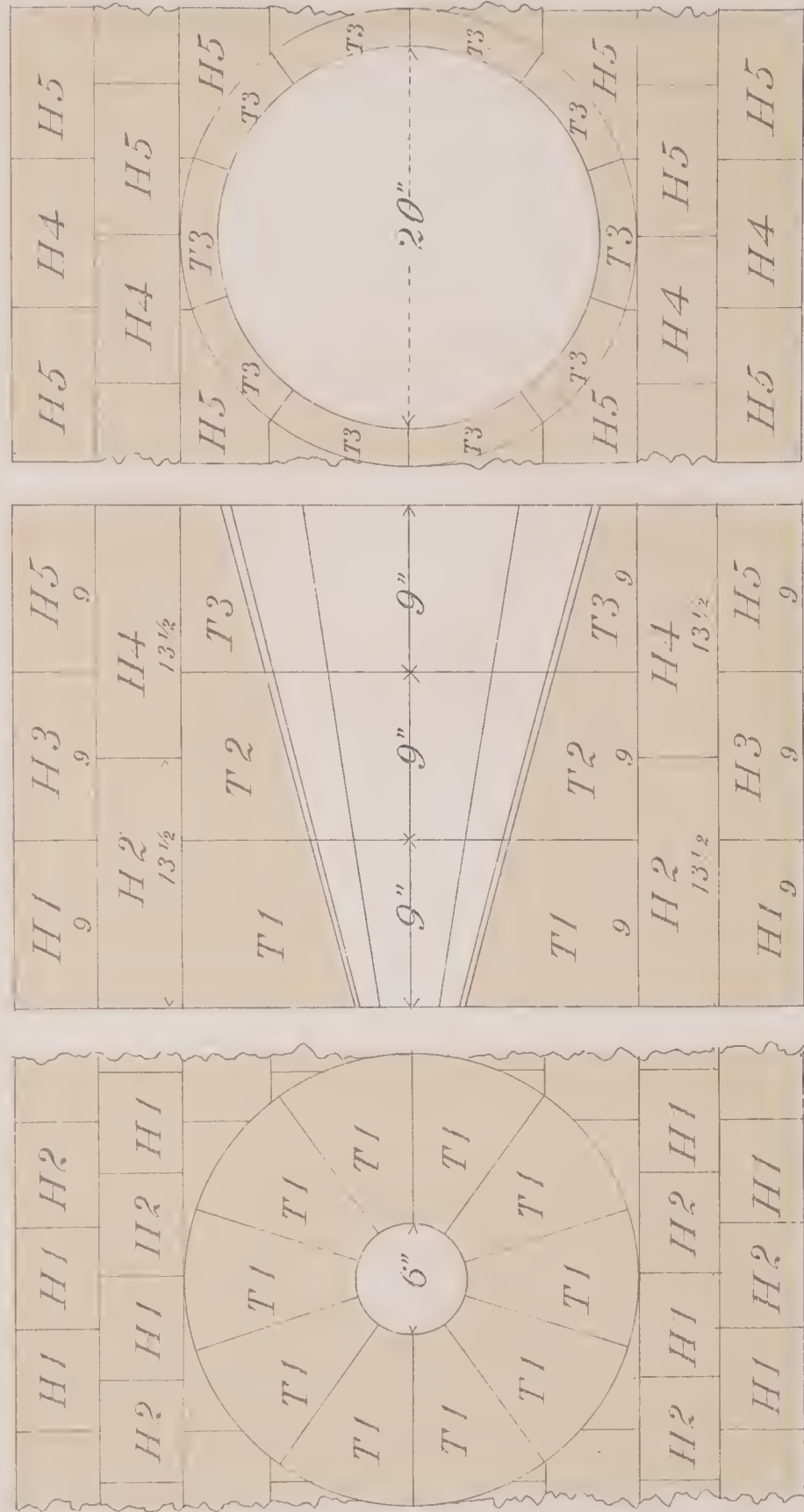
WOODLAND FIRE-BRICK CO., LIMITED.  
BLAST FURNACE BRICK.

TUYERE  
BLOCKS.



FOR DIAGRAM SHOWING THESE BRICK IN FURNACE WALL,  
SEE PAGE 25.

SHOWING TUYERE BLOCKS T 1, T 2 AND T 3 IN POSITION.



VIEW OF TUYERE OPENING  
AT EXTERIOR OF FURNACE.

SECTION OF WALL SHOWING  
LENGTH OF TUYERE OPENING.

VIEW OF TUYERE OPENING  
AT INTERIOR OF FURNACE.

## BLAST FURNACE LININGS.

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On page 27 we exhibit section of a 20' x 94' furnace, which is a good representation of the working drawings we furnish to our customers, to enable their masons to fit the many kinds of brick properly together. It will be noticed that the brick are lettered and numbered from top to bottom; this is desirable and necessary for reason given above, and yet for a more important reason. A set of blast furnace brick comprises a variety of compositions, each separate composition adapted for a particular portion of the furnace. The brick for the crucible or hearth, are not suited for the bosh in either shape or quality; those adapted to the bosh will not suit the inwall, &c., &c. To insure a successful run, it is absolutely necessary to have each kind of brick occupy that particular part of the lining for which it is intended.

In ordering a set of furnace brick, customers should send us a sketch showing outline of space to be occupied by brick work. They may select from our different designs of furnace shapes, those which they prefer. The arranging of the brick in the furnace they should invariably leave to us.

They should show on sketch the positions of tuyere openings, and any other openings they may want, being careful to give all the dimensions accurately.

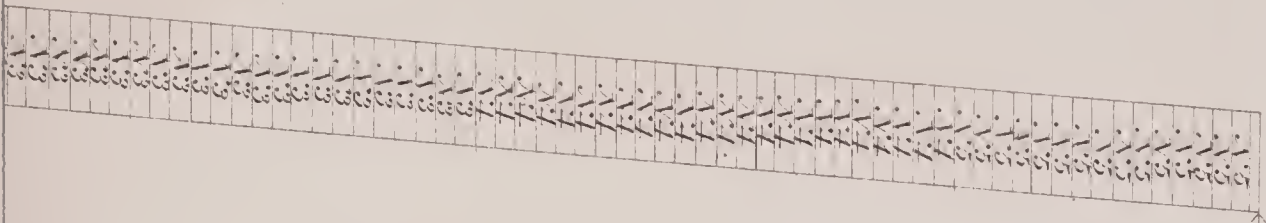
We usually keep on hand a full set of blast-furnace brick, of patterns shown on pages 16, 17, 18, 19, 20, 21, 22 and 23.

It is always better, however, for customers to permit us to make brick specially for their furnaces, as thereby there is less cutting and fitting, a more excellent job is obtained, and furnace insured a longer run.

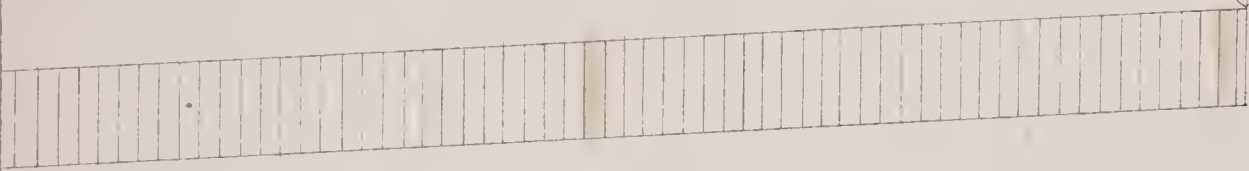
We call your attention to our large assortment of furnace bottoms. No. 1 is frequently called for; Nos. 2 and 3 much oftener. In our Nos. 4 and 5 we furnish the most complete and scientific bottom ever used. Others have attempted something of the kind, but have failed to carry out the principles on which they are based. They are worthy a prolonged examination.

We make all kinds of tuyere arch blocks, but have space for only two kinds on this publication





14'



Horizontal View  
Top of Inwall.

## BLAST FURNACE LININGS.

---

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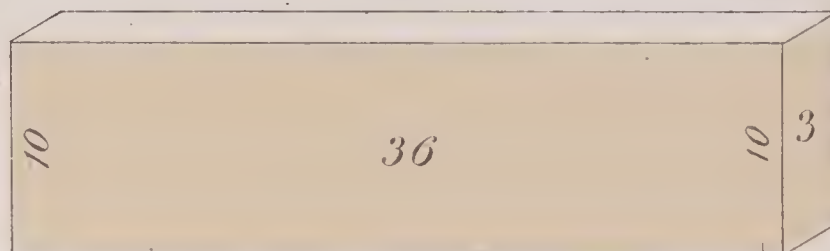






WOODLAND FIRE-BRICK CO., LIMITED.  
RAILROAD ENGINE TILE.

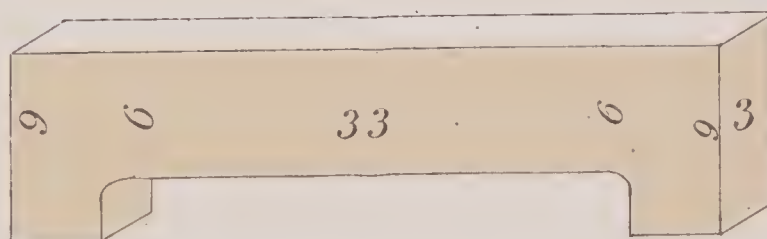
29



SIZES KEPT IN STOCK:

36 x 10 x 3  
35 x 10 x 3  
34 x 10 x 3  
33 x 10 x 3  
32 x 10 x 3  
36 x 8 x 3  
35 x 8 x 3  
34 x 8 x 3  
33 x 8 x 3  
32 x 8 x 3

SPECIAL PATTERN.

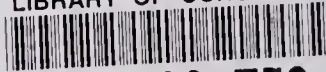








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WOODLAND FIRE BRICK CO.

MADE IN U.S.A.

WOODLAND CEMENT BRICK CO.

MADE IN U.S.A.